

Report submitted to the
United States Agency for International Development

**USAID/Bolivia's
Country
Strategy
2004-2009**

**Potential Environmental
Impacts of USAID/Bolivia's
Draft Concept Papers**

under USAID Contract No. LAG-I-00-99-00013-00, Biodiversity and
Sustainable Forestry (BioFor) IQC,
Task Order No. 810

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December 2002

USAID/Bolivia's draft Strategic Plan for 2004-2009 will include a wide range of proposed activities, many of which, as discussed, will produce benefits for the conservation and management of Bolivia's biodiversity and tropical forests. Some of the proposed actions, however, also have the potential to cause negative impacts on Peru's biodiversity and tropical forests.

Such potential negative impacts should be identified by the procedures specified in the USAID Environmental Regulations contained in Section 216 of the Foreign Assistance Act. If the negative impacts are judged to be potentially significant, by an Initial Environmental Evaluation (IEE), then a detailed Environmental Assessment is required. The Environmental Assessment analyzes in detail the potential environmental impacts of the proposed action; specifies actions to avoid, compensate for, or mitigate those negative impacts; and designs monitoring procedures to evaluate the effectiveness of such measures.

The present document cannot substitute for the procedures for environmental review, assessment, mitigation and monitoring specified in USAID's Environmental Regulations. This section does, however, identify some potential environmental issues concerning USAID/Bolivia's Strategic Plan 2004-2009 that were identified during the preparation of this report. These potential environmental issues were classified as non-significant or significant based on the content of the Concept Papers. Obviously, these classifications are only indicative, and are subject to modification as more detailed information about the proposed actions becomes available.

Non-significant Potential Environmental Issues

Potential environmental issues are classified as "non-significant" if they:

- are unrelated to proposed actions,
- have already been mitigated as part of the proposed action, and
- if their effects will be positive for the environment rather than negative.

Note that the term "non-significant" is used specifically in relation to a proposed action. An extremely important environmental problem may, therefore, be classified as "non-significant" because it is not a result of a proposed action.

The environmental issues that were classified as non-significant are:

- trade in tropical wood products, and
- water pollution.

Issue: Trade in tropical wood products

Issue Statement: Trade in tropical wood products might stimulate an increase in the illegal cutting of trees in tropical forests that are not sustainably managed.

Rational for Elimination: The Economics Opportunities Strategic Plan Concept Paper emphasizes that USAID will promote export of wood products made from wood produced in forests that have received certification of sustainable management. Such a strategy will produce positive, not negative environmental impacts by providing additional incentives for sustainable tropical forest management. (If USAID actions are found to promote the export of wood from uncertified forests, however, this issue should be reexamined.)

Issue: Water pollution

Issue Statement: Water pollution causes negative impacts on aquatic biodiversity and on human health.

Rationale for Elimination: There is no indication in the Strategic Objective Concept Papers that USAID intends to finance activities that will cause additional water pollution.

Significant Environmental Issues

Environmental issues are classified as “significant” if they:

- are a result of the proposed actions;
- have a high probability of causing negative environmental impacts; and
- have not already been adequately avoided, compensated for, or mitigated as part of the proposed action.

The environmental issues that were classified as non-significant on the basis of the Concept Papers are:

- road construction and improvement;
- development in coca production areas;
- spread of coca cultivation; and
- increased tourism.

Issue 1: Road construction and improvement

Issue Statement: The construction and improvement of roads in the coca production areas of the Chapare and the Yungas of La Paz could indirectly and directly cause negative environmental impacts on vegetation, soils, and water and biodiversity.

Discussion: According to the Alternative Development Concept paper USAID will “...continue to support...the development of the productive infrastructure, including...the repair, maintenance and improvement of local roads...” in the Yungas of La Paz. The Concept Paper does not indicate whether USAID will continue to finance road construction and improvement in the Chapare. Nor does it provide specific information on the location, extent or type of roads that USAID may finance.

The construction and improvement of roads, especially in rough topography such as the Yungas of La Paz, can potentially cause significant direct temporary or irreversible negative environmental impacts. The construction of a new road frequently requires elimination of natural vegetation, for example, if it involves the improvement of existing vehicular, animal or foot trails or road realignment. The new or improved road also requires maintenance, which frequently involves earth movement and mining of road surfacing materials that can cause soil erosion and contamination of water bodies. Road construction and improvements may also involve the construction of bridges across water bodies with concomitant disturbance of vegetation and soil.

Road construction and improvements also frequently cause significant indirect negative environmental impacts. By reducing the cost of access to tropical forests, roads have frequently been the most direct reason for the immigration of colonists into forested areas. The link between roads, colonization and deforestation has been demonstrated throughout the Amazon Basin, including the Bolivian lowlands.¹

¹ Geist, Helmut J. and E. Lambin. 2001. What drives tropical deforestation.

When such colonization is not accompanied by effective land use capability planning and by technical assistance, colonists frequently settle land which cannot support continuous agricultural or livestock pasture without prohibitively costly inputs of fertilizer. Colonists therefore convert the nutrients contained in the natural vegetation into fertilizer through cutting it down and burning it up or leaving it to deteriorate slowly. Colonists establish a pattern of shifting cultivation that involves a fallow period (*barbecho*) alternating with a production period. When the soil can no longer support even itinerant agriculture, colonists frequently plant pasture grasses. The landscape thus is converted into a patchwork of remnant natural forest, secondary forest, *barbecho*, agriculture and pasture, with a greatly reduced area of primary tropical forest and biological diversity.

Mitigation Measures: USAID/Bolivia should not make commitments of its alternative development funds to road construction and improvement projects in the Yungas of La Paz, the Chapare or elsewhere before thoroughly evaluating their potential negative environmental impacts. If such an evaluation does identify potentially significant negative direct or indirect environmental impacts, USAID should design and finance effective means to avoid, compensate or mitigate these negative impacts on tropical forests and biodiversity. Such measures could include realignment of proposed road layouts to avoid natural vegetation, training for equipment operators to minimize earth movements or entrance of contaminants into water bodies, or promotion of forest management and conservation in forests adjacent to the improved or new roads.

Issue 2: Development in coca production areas

Issue Statement: Development activities in the coca production areas may attract immigrants who will clear tropical forest.

Discussion: The Alternative Development Concept Paper suggests that the new strategic objective would be expressed as achieving the results of “the licit economy in the Chapare and Yungas strengthened and social capital increased to ensure sustained and balanced growth.” These results would be based in part on the development hypothesis that if “...alternative income sources for farmers are sustainable consolidated and/or licit household incomes for farmers are significantly increased...then reverting to illegal and excess coca production in Bolivia can be prevented...”

These results in the Chapare and the Yungas would be likely to make them attractive to people in less prosperous parts of Bolivia. Indeed, a socioeconomic mapping exercise in the Chapare “...revealed that there are potentially 53,300 AD clients rather than 35,000...” and may indicate that the success of alternative development in this area has already attracted immigrants. Additional successful development in the alternative development areas, as well as the elimination of the illegality associated with coca production, would be likely to continue to attract immigrants. Unlike many of the migrants who arrived previously to grow coca, many of the new immigrants may be farmers looking for agricultural land in order to take advantage of the market opportunities for agricultural crops that the alternative development activities have created. These immigrants are likely to clear tropical forests as they seek to create additional agricultural land. As previously discussed, they may frequently clear forest on soils that are too infertile to support permanent agriculture without heavy fertilization. Because the purchase of fertilizers would not make financial sense, the farmers are likely to utilize a short forest fallow system and then convert the land to pasture. In this way, the development activities in the coca production areas are likely to stimulate additional deforestation, with severe and irreversible consequences for biological diversity.

Mitigation Measures: The Concept Paper implies that the Strategic Plan will continue to include “...activities which involve forestry, community forestry, conservation, indigenous territory development, sound watershed management and participatory management of protected areas, through a grant agreement with the FAO/UNDCP agro-forestry project.” This is probably the most practical and effective

mitigation measure for the impacts of development on the forests of the Chapare and the Yungas. The rather long list of activities, however, does not seem proportionate to only 15 percent of the CONCADE's budget.

Issue 3: Spread of coca cultivation

Issue Statement: Development of a licit economy in the Chapare and the Yungas of La Paz may drive illicit coca production into new areas of tropical lowland forest.

Discussion: The Alternative Development Concept Paper aims to develop a licit economy in the Chapare and the Yungas of La Paz by replacing the cultivation of illicit coca with licit agricultural production. The elimination of coca from these two areas does not mean, however, that those who promote and finance its cultivation will not do so in some other part of the vast areas of lowland Bolivia where the climate and soils are suitable for coca production. Illicit coca cultivation has already moved into the Carrasco and Isiburo-Secure National Parks. The Concept Paper points out in early 2002, reports of areas in the Pando (north of the Yungas region) that are being planted to coca. The Concept Paper does not, however, discuss this potential impact of success in alternative development activities even though it does, as mentioned, raise the issue by referring to the spread of coca cultivation into Pando.

Mitigation Measures: Coca cultivation thrives in areas where there is a weak licit economy and where land ownership and rights over forest resources are insecure. The entire Environment Strategic Objective, therefore, could be considered a mitigation measure that would limit the spread of coca cultivation from the Chapare and the Yungas of La Paz into the tropical forests of Pando and Beni. The Environment Strategic Objective is to achieve sustainable management of the tropical forest, including protected areas, in its ecological, social and economic dimensions. Achievement of such sustainable management would stabilize land use by creating a sustainable financially viable alternative to coca production. In sum, the success of the Environmental Strategic Objective is critical to the success of the Alternative Development Strategic Objective.

Issue: Increased tourism

Issue Statement: Increased tourism can overload limited sanitation infrastructure.

Discussion: The Alternative Development Concept Paper proposes USAID support for expansion of tourism. Increased tourism could overload local sanitation infrastructure. If tourists increase the demand for wild game, an increase in tourism might place localized pressure on certain wildlife populations.

Mitigation Measures: The Alternative Development Concept Paper suggests that USAID might support sanitation infrastructure. Such infrastructure should be part of plans to stimulate tourism.